Message

From: Strynar, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5A9910D5B38E471497BD875FD329A20A-STRYNAR, MARK]
Sent: 1/5/2016 3:50:15 PM
To: Lindstrom, Andrew [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=04bf7cf26aa44ce29763fbc1c1b2338e-Lindstrom, Andrew]
Subject: FW: Your Intercept Article

This is the number I see below.

718-877-5236

From: Sharon Lerner [mailto: **Personal Matters / Ex. 6**
Sent: Wednesday, December 16, 2015 3:57 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: Re: Your Intercept Article

Thanks, Mark. I will shoot for 11:30.

On Wed, Dec 16, 2015 at 3:52 PM, Strynar, Mark <Strynar.Mark@epa.gov> wrote:

> I read them all and I am free at 11:30 or 1:30 to talk. You choose. My office phone is 919-541-3706. If I do not answer my cell is **Personal Phone / Ex. 6**
>
> Mark

From: Sharon Lerner [mailto: **Personal Matters / Ex. 6**
Sent: Wednesday, December 16, 2015 3:37 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: Re: Your Intercept Article

Mark-

Thanks so much for your note - and all that info you sent. I will dive into the articles tonight and I'd love to talk with you. (Just in case you haven't seen it, btw, I did other recent reporting on this and related chemicals. There are six stories in all here.)

Do you have time to talk tomorrow? I'm free at 9, 11:30 or 1:30.

All the best,

Sharon

Sharon Lerner

Reporter, **The Intercept**

@fastlerner

718-877-5236

On Wed, Dec 16, 2015 at 3:30 PM, Strynar, Mark <Strynar.Mark@epa.gov> wrote:

https://theintercept.com/2015/12/16/toxic-firefighting-foam-has-contaminated-u-s-drinking-water-with-pfcs/

My name is Mark Strynar. I work for the US EPA and have been working on the issue of perfluorinated compounds for over 12 years now. First and foremost I would like to tell you I am not the official EPA liaison for perfluorinated compounds policy. I have worked on some of the studies you cite in your article (PFOA toxicology, the evidence for PFCs getting into the water in Decatur AL due to bio-solids application). Some of the work we did in Decatur AL spurned the US EPA to set the PHA that still stands today.

I really enjoyed your article and wanted to pass along a couple of things that may be of interest to you if you intend to follow this topic in the future.

Per the Enforceable Consent Agreement the PFCs longer than C8 have been phased out in the US and have been agreed upon by the 8 companies in agreement. Two things you should note 1. US companies) and 2. those that agreed. This does not cover companies in other countries that may import these compounds into the US or companies that did not agree. There are major

manufactures in other countries (this one for instance in China http://www.htfluo.us/) that is currently making and exporting perfluorinated compounds to the US. Usage of these compounds (including those >C8) on food contact applications is not forbidden to the best of my knowledge. The FDA should know more on this. AFFF as a source to water is well known know. Other sources of PFCs into the human body are not.

Another thing I would like to note is they phased out PFOS and PFOA (and other C8 chemistries that can degrade to PFOS and PFOA. As you note in your article they are switching to perfluorinated compounds that are shorter (C6 or less) as an alternative. What is not well know is what additional compounds are being made that are new and are not on most people's radar that are not simply shorter alternatives; rather are new perfluorinated chemistries. Find attached a paper I recently published for new chemicals we found in Fayetteville, NC and are likely in the water of other locations such as Little Hocking, OH. Other companies are likely making new alternative compounds that I and other do not yet know about to replace PFOS/PFOA. 3M makes a product called ADONA to replace PFOA; Chemours (formerly DuPont makes something called GenX to replace PFOA. For other companies like Solvay, Daikin, Mason Chemicals I am unaware of what they are making, though I would assume they are making replacement compounds. These may be used in new AFFF formulations or other products that lead to human exposure. It is currently unknown to me.

Shorter chain perfluorinated compounds (including these alternatives) are not very well retained by activated charcoal and thus are difficult to remove from drinking water systems. They are likely cleared quickly from the human compared to PFOS/PFOA however I do not know of any toxicology work done on these compounds. In addition the shorter chain compounds are more readily soluble in water, and thus are more mobile. As you pointed out in your article, they are still not going to degrade in the environment or in the human body.

I am attaching a second paper by Wang et al. that shows what some of these new chemistries are we are just becoming aware of.

I would be glad to talk with you if you have any questions. I too am awaiting the long anticipated USEPA Office of Water chronic values for PFOS and PFOA in water.

Mark Strynar

US EPA

National Exposure Research Lab